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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/613,372

07/03/2003

Aryan Saed

ICE-015

4826

7590

09/21/2004

Patent Administrator
Testa, Hurwitz & Thibault, LLP
High Street Tower
125 High Street
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EXAMINER

MOTTOLA, STEVEN J

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/613,372	Applicant(s) SAED ET AL.	
	Examiner Steven J. Mottola	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to ^{pre-amendment} communication(s) filed on 11-6-03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-39, 45-48, 52, 53, 58, 60-62 and 64-69 is/are rejected.
- 7) ☒ Claim(s) 40-44, 49, 51, 54-57, 59 and 63 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1006034050304</u> | 6) <input type="checkbox"/> Other: _____ |

Claim 69 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no antecedent basis for "said update means" of line 1 or "said determining means" of line 2 of the claim. The claim is rendered indefinite because there is nothing in the parent claim that may be interpreted as these elements.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 34-39, 45-48, 52-53, 58 and 65-68 are rejected under 35 U.S.C. 102(b) as being anticipated by Leizerovich et al.

Refer to fig. 6 of Leizerovich et al. Treating claims 34-36 first, the feedback circuit 33 of Leizerovich et al. may be read as the adaptive predistortion subsystem claimed as it receives an input signal (I_{in} , Q_{in}) and predistorts it via modulator 21. The amplifier stage 67 may be read as the signal processing subsystem claimed, including a splitter 72 that decomposes the predistorted signal, amplifiers 74,76 that separately process the components and combiner 78 to recombine them. The predistorting applied by modulator 21 is adjusted based on the output fed back from coupler 7. Regarding claim 37 the Doherty power amplifier of Leizerovich et al. is a nonlinear amplifier. Regarding claim 38, the device of Leizerovich et al. is for an RF communications system. Regarding claim 39, since the combiner 39 is in the signal path some of the distortions

would inherently be due to it. Regarding claim 52, the signal fed back from coupler 7 may be read as the replica claimed, and regarding claims 53 and 67 subtractors 17,18 will cause the predistorted signal to depend on the difference between the input and output signals. Regarding the method claims, in re claim 45 Leizerovich et al. receive an input signal lin, Qin and apply a predistortion to it via modulator 21; the predistorted signal is decomposed by splitter 72 and combined by combiner 78. The predistortion is adjusted in accordance with the output fed back from coupler 7. In re claim 46 the output will be an RF modulated version of the input. In re claims 47-48 amplifiers 74,76 separately process and of course amplify the components. In re claim 58, note phase adjuster 31. Regarding claim 65-66 and 68, the predistortion will depend on both the input and output signals (via coupler 7) as noted above.

Claims 60-62 and 64 are rejected under 35 U.S.C. 102(b) as being anticipated by Jeckeln et al.

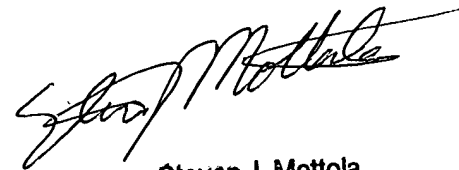
The applicant is familiar with this reference. Refer to fig. 1. Regarding claim 60, the predistorter 2 includes (see detail fig. 4) look up tables 3,4 (note in re claim 62) that may be read as the determining means claimed, while the converter 19 and multiplier 20 may be read as the adjustment means claimed. The look up tables are updated by RTM circuit 12 which may be read as the update means claimed. In re claim 61, the converter 19 and multiplier 20 receive signals from the look up tables as shown in detail fig. 4. Regarding claim 64, RTM circuit 12 receives both the input and a replica of the output via coupler 7.

Claims 40-44,49-51,54-57,59 and 63 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven J. Mottola whose telephone number is 571-272-1766. The examiner can normally be reached on M-Th from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal, can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steven J. Mottola
Primary Examiner